



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,838	12/20/2001	James B. Carpenter	57210US002	3340

32692 7590 10/06/2003

3M INNOVATIVE PROPERTIES COMPANY
PO BOX 33427
ST. PAUL, MN 55133-3427

EXAMINER

LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
----------	--------------

1731

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,838	CARPENTER ET AL.	
	Examiner	Art Unit	
	Carlos Lopez	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,10,12,14,16,17,20,21,24 and 28-30 is/are rejected.
- 7) ☒ Claim(s) 8,11,13,18,19,22 and 25-27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The non-patent literature listed on IDS filed on 3/25/02 have not been considered. No copy has been supplied.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a loading chamber comprising a vessel enclosing the entire length of optical fiber recited in claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "122" has been used to designate both high-sensitivity regions in figure 1c and vents in figure 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. The same correction is needed for element 120 designating an inlet and a high-sensitivity region if figure 4 and 1c respectively.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 1) Claims 7,9,10,12,16,23, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7 and 9, the term "the first tube" lacks antecedent basis.

In claim 10, the term "the heating member" lacks antecedent basis.

In claim 12, the term "the vessel" lacks antecedent basis.

In claim 16, the term "the mechanism" lacks antecedent basis.

In claim 23, the term "the pressure seal" lacks antecedent basis.

In claim 30, the term "the advancing mechanism" lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1731

2) Claims 1-6, 14, 17, 20-21, 24, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Cullen et al (US 6,146,713). Cullen discloses a device for exposing an optical fiber to a hydrogen environment. As shown in figure 2 of Cullen, the claimed loading chamber is deemed as a hydrogenation device (50). The device (50) holds hydrogen that can be maintained at pressures exceeding 3,000psi (Col. 6, lines 31-34). The device (50) is divided into two compartments a hot zone 50_H and a cold zone 50_C wherein fibers sections to be hydrogenated are held in hot zone 50_H. Heat "Q" is introduced in the hot zone 50_H by heat exchanger (60), deemed as the claimed heating element (col. 7, lines 42-49).

As for claim 2 and 28, the hydrogenation of the optical fiber takes place in a temperature in excess of 250°C (Col. 3, line 67).

As for claim 6, the device 50 has a tubular shape as shown in figure 3.

As for claim 14, cooling zone 50_c provides for a cooling region adjacent to the heated portion of the fiber.

As for claim 17, the cooling region is created by a heat exchanger.

As for claim 20, the heat exchanger is deemed as a controllable heater.

As for claim 21, hydrogen gas is introduced into the device from valve 54 and vented from another valve (Col. 7, lines 8-16).

As for claim 24, the pressure barrier 58 separates the cool and hot zones (50_c, 50_h) acts as a pressure seal.

As for claim 29-30, it is inherent that Cullen provides a mechanism for advancing an optical fiber portion into and out of hydrogenation chamber.

Art Unit: 1731

3) Claims 1-5, 10, 15, 12, 20-21, and 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Brennan, III et al (US 6,311,524). Brennan discloses a hydrogen loading apparatus. As shown in figure 1 of Brennan, the claimed loading chamber is deemed as a hydrogenation device (10) having loading chamber (12). The device (10) holds hydrogen that can be maintained at pressures exceeding 3,000psi (Col. 4, lines 1-2). Heater (16) is deemed as the claimed heating element.

As for claim 2 and 28, the hydrogenation of the optical fiber takes place in a temperature in excess of 250°C (Col. 4, line 45).

As for claim 10, whole optical fibers are hydrogenated (Col. 11, lines 5-10).

As for claim 12, Brennan pressure device (10) is considered as a pressure bell.

As for claim 15 the cooling region is deemed as the area outside the chamber 10 which would inherently include moving mechanism to remove the treated portion of the fiber.

As for claim 20, the heater is deemed as controllable heater.

As for claim 21, as shown in figure 1 the hydrogen gas is introduced into the device and vented.

As for claim 29-30, it is inherent that Brennan provides a mechanism for advancing an optical fiber portion into and out of hydrogenation chamber.

Allowable Subject Matter

Claims 8, 11, 13, 18-19, 22, 25-27, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 1731

The following is a statement of reasons for the indication of allowable subject matter: the cited prior art does not disclose gas seals attached at end sections of the selected portion as recited in claim 8. Nor does the cited prior art disclose or reasonably suggest: end portions of the length of the optical fiber are wound on laterally spaced reels and the selected portion is suspended midspan as recited in claim 11, recite clamping vessels blocks as disclosed in claim 13, pre-heating chamber as recited in claims 18-19, a pressure seal affixed to the optical fiber recited in claim 22, and re-closeable seals as recited in claims 25-27.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References A-C and E-K in PTO-892 have been cited to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lopez whose telephone number is (703) 605-1174. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (703) 308-1164. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Application/Control Number: 10/028,838

Page 7

Art Unit: 1731

C.L